

THE ZOOLOGIST.

THIRD SERIES.

VOL. XV.]

FEBRUARY, 1891.

[No. 170.]

NOTES ON THE ORNITHOLOGY OF NORTHAMPTONSHIRE.

BY THE RT. HON. LORD LILFORD, F.L.S., F.Z.S.

I CONTINUE my notes from Oct. 16, 1889 (Zool. 1889, p. 430); for explanation of initials used, *cf.* Zool. Dec. 1888.

OCTOBER, 1889.

19th. A Spotted Crake, taken in a snare at our decoy, was brought to me alive and uninjured, and at once set at liberty.

21st. Three Snipes snared at the decoy averaged only $3\frac{3}{4}$ oz. in weight.

23rd. About thirty-five Wigeon dropped into the decoy at morning flight-time, and twenty-three of them were at once taken; these were all apparently young birds of the year. Mr. J. E. Harting, who paid us a visit on this day, informed me that he saw, from the train near Thorpe Station, a Spotted Crake at close quarters, first swimming, and then fluttering across the water towards the river-bank. He added that he could almost have shot it from the carriage had he been prepared.

25th. Three Geese and a continuous stream of Sky Larks passing southwards.

27th. Thirty Geese, and a small flock of Gulls, supposed to be Kittiwakes (more likely *Larus ridibundus*), reported to me as passing southwards.

28th. A few Teal are dropping in at the decoy and elsewhere; a Water Rail taken alive in a snare at the decoy, and placed in

ZOOLOGIST.—FEB. 1891.

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the aviary. We left home for Bournemouth on Oct. 29th; so that my following records till May, 1890, are taken from letters received from various correspondents in Northamptonshire.

NOVEMBER.

1st. An immature male Buffon's Skua was picked up alive, but with one thigh broken, close to the L. & N.W. Railway, not far from Thorpe Station. My cousin, the Rev. William Powys, who met the finder of the bird a few minutes after the capture, was of opinion that the injury had been caused by shot, but he bought, killed, and forwarded the specimen to me at Bournemouth, where I received it on the 4th inst., and I have no doubt that the fracture was occasioned by the bird flying against the telegraph-wires. This is, so far as I know, the second recorded instance of the occurrence of this species in our county.

5th. Three House Martins flying about Lilford.—R. C.

11th. A Great Grey Shrike visited our sentinel of the same species at the hawk-hut at Pilton, took a slight refec-tion from his food, and remained for about an hour in the immediate vicinity.—R. C.

12th. A pair of Gadwalls, taken this morning, were brought to Lilford from the decoy, pinioned, and put upon the park-pond.—R. C.

19th. Large numbers of Sky Larks passing over daily. A pair of Common (?) Sandpipers are constantly about the river-side near the hawk-hut.—R. C. I place a mark of interrogation after the word "Common," as, though my informant is well acquainted with *Totanus hypoleucus* (a bird that is never abundant about Lilford), that species has not hitherto been met with, or heard of, by me later than the end of September in our neighbourhood. I suspected that these two birds were either Green Sandpipers or Dunlins; but, on questioning my informant closely, I found that he was quite positive as to correct identification. I can only attribute this late stay of the Sandpipers to the extraordinary mildness of the season. On the day last mentioned our head-gardener wrote:—"The weather is so warm here that the Sparrows have built a nest on the pear tree at the end of my cottage."

20th. Mr. W. Tomalin, of Northampton, informed me that on this day a Hoopoe was murdered in a rick-yard near Yardley-

Hastings, brought to him, and presented to the Northampton Museum.

26th. I had a Golden-eye on the decoy yesterday.—R. S.

27th. Of eight Snipes received to-day from Lilford, the heaviest weighed rather more than $4\frac{1}{4}$ oz. Mr. F. A. Irby tells me of a large trip of Golden Plover going southwards near Lilford to-day, and of having seen two "grey geese" near Aldwincle on the 28th inst.

DECEMBER.

2nd. I received this morning, from Mr. F. Dyer, formerly of Irthlingborough, but now living at Margate, a very perfect specimen of the Black-breasted, or Scandinavian, form of Dipper, *Cinclus melanogaster*, with the information that the bird was shot on Nov. 18th ult., at Raunds Staunch, on the Nene near Ringstead, and sent to him, for preservation, by Mr. Spencer, of Irthlingborough. The Dipper is a rare visitor to our district, and this is the only instance of the occurrence of the Scandinavian race in Northamptonshire that has hitherto come to my knowledge. Under this date Mr. W. Tomalin informed that a Great Grey Shrike was taken alive near Northampton "about three weeks ago."

3rd. In some ornithological notes very kindly communicated by the Rev. H. H. Slater, of Irchester, I find, under this date, the following statements:—"A lot of Golden Plover on my shooting (close to Irchester), very wild; I shot two. I saw also a white Cushtat." In a subsequent note, of 12th inst., Mr. Slater tells me that this white Wood Pigeon had been seen several times since his first notice. I received an immature female Golden-eye from Lilford, shot yesterday on the river below the house.

4th. I this day received a letter from Mr. Arthur Tucker, of Northampton, informing me that he found a nest of Common Redpoll in the parish of Great Houghton on July 10th ult.: I record this, as I have very few records of the breeding of this species in our county.

5th. My son and the falconer report a Peregrine, a few Herring Gulls, and some Gulls of a smaller species seen near Lilford to-day.

10th. An old Haggard Peregrine made one stoop at my

Pigeon at the hut, but she had a full crop, and was not in earnest.—R. C.

12th. Under this date I find, in Mr. Slater's notes above mentioned:—"A male *Picus major*, shot lately near Irchester, and brought to me, had recently eaten several grubs of the goat-moth, of which there were three whole ones, and various scraps, in the gizzard of the bird." An immature female Tufted Duck shot near Lilford, and forwarded to me in the flesh.

19th. I took a male Pintail on the decoy this morning.—R. S. This bird was pinioned and placed on the park-pond.

23rd. I heard to-day that seventeen Woodcocks were killed one day last week in the Duke of Buccleuch's coverts at Boughton, near Kettering: this is now-a-days an exceptionally large bag of Woodcocks for North Northamptonshire.

26th. A solitary male Pochard on the decoy.—R. S.

JANUARY, 1890.

1st. A Bittern was shot in Blatherwycke Park this morning; the occurrence communicated to me by Mr. Horace S. O'Brien.

3rd. My son shot a very good specimen of adult female Smew on the Nene, below Lilford, this morning, and forwarded the bird to me at once. It is long since I have heard of a Smew in the neighbourhood of Lilford; but a good many seem to have visited the eastern coasts of England during this winter, and I purchased seven of this species alive in Leadenhall Market; these birds were probably brought over from Holland, but I do not remember to have had more than one or two previous offers of living Smews from the London markets.

30th. Two Swans seen on wing near the decoy.—R. S.

FEBRUARY.

1st. First egg of hand-reared Wild Duck found at Lilford.—R. C.

3rd. Under this date, Mr. Slater writes:—"A Waxwing on the large hawthorn-bushes near Ditchford Bridge. Mrs. Slater, whom I was driving to Irthlingborough, called my attention to a 'particularly beautiful' bird, and there was the Waxwing, sitting on a bush not twenty yards off; it made off when we stopped, so I got out and followed, and had another good look at it; it was a female, or a young bird, and appeared to be alone."

12th. I received to-day, from the Rev. H. N. Rokeby, of Arthingworth, near Northampton, for identification, a ragged and moth-eaten specimen of Storm Petrel, stuffed and set up in an old cigar-box, with the information that the bird was picked up on the high road in the neighbourhood of Arthingworth, some fifty or more years ago. I may add that this specimen has been most marvellously restored and remounted by the skilled hands of Mr. J. Cullingford, of Durham, to whom, with Mr. Rokeby's permission, I sent it. I record this at length, as, although I have heard rumours of the Storm Petrel's occurrence in other parts of the county, I know that some of them relate to other species, and this is the only one of which I have proof positive.

17th. Under this date, I heard of two wandering Mute Swans, and a large number of wildfowl, Fieldfares and Redwings, haunting our flooded meadows. Of fifteen Wigeon taken on the decoy to-day and on 22nd inst, and sent to me at Bournemouth, twelve were males in perfect adult plumage. One Pochard on the decoy on 22nd.—R. S.

MARCH.

8th. I received from Mr. G. Hunt, of Wadenhoe, a female Tufted Duck, shot by him at Thrapston on 1st inst.

12th. Fifty Ducks, twelve Teal, and ten Wigeon on the decoy, and a "Starn" flying up the river on 10th.—R. S. If it had not been so early in the year I should have been inclined to put down this "Starn" as a Black Tern, as the decoy-man calls the Common Tern "Sea Swallow," but from subsequent examination and enquiry I feel little doubt that the bird was really a Brown-headed Gull.

26th. A nest of Tawny Owl with three eggs, and two nests of Barn Owl (containing respectively one and three eggs) found in hollow trees in the close vicinity of Lilford.—S. J.

APRIL.

1st. Two more nests of Tawny Owl, with eggs, near Lilford.—R. C.

3rd. From this date till nearly the end of the month I received constant reports of Canada Geese frequenting our meadows and occasionally visiting my ponds, their numbers varying from two to nine. I found, on enquiry from Mr. H. S. O'Brien, of Blather-

wycke, that he has some fifty or more of these birds, unpinioned, on his lake at that place (which is about ten miles from Lilford), and that at this time of year the old ganders drive the young birds entirely away from the park. It is remarkable that I should not have even heard of any of these birds coming up the Nene before; but I believe that they prefer the valley of the Welland to that of our river. Mr. O'Brien mentions that at the time of writing to me on this subject,—i. e. about April 18th,—five Great Crested Grebes were frequenting his lake.

12th. Two "Grey Geese" near the decoy.—R. S.

21st. Under this date Mr. Slater informs me that he saw "a fine old male Merganser at Field's shop in Kettering, shot close by. I am making enquiries as to exact date and locality of this occurrence.

25th. A nest of Little Owl, containing six eggs, found in a hollow ash-tree in the park at Lilford (*cf.* Zool. 1889, p. 426). Young Stock Doves ready to fly.—S. J.

MAY.

5th. A pair of Wigeon on the decoy.—R. S.

We returned to Lilford from Bournemouth on May 14th, the weather fine, but unseasonably cold. Large flocks of Wood Pigeons haunting the tall elms about the pleasure-grounds; these birds are, no doubt, merely passing through our county on their way from their winter quarters to the north, as many of our home-breeding Cushats are sitting hard. These travellers are smaller and darker-coloured than our average typical Wood Pigeons.

16th. Some of the eggs in the Little Owl's nest have been hatched for several days.

17th. A nest of Hawfinch, containing five eggs, found in a horse-chestnut tree near the aviary. Mr. G. Hunt shot eighty-five Wood Pigeons over wooden decoys on a pea-field on Wadenhoe; he assures me that of these not more than six were, in his opinion, home-birds; and certainly the differences between one of the latter and three "travellers" sent by him as samples of his bag were very remarkable. Mr. Hunt informed me that most of these Pigeons had empty crops, and that the principal attraction for them to the spot was a common creeping-plant with a white flower, locally known as "May-weed."

JUNE.

6th. A Partridge is sitting on a nestful of eggs under a tussock of pampas-grass, in the flower-garden, at not more than twenty yards from our ground-floor windows, and within five yards of much-frequented garden-seats.

22nd. Five young Pied Woodpeckers brought to me from a hole in an oak in Barnwell Wold; one of these birds was weakly, and soon died; the others went on fairly well for some weeks, but, one after another, began to droop, and were all set at liberty.

27th. A young House Sparrow, of a uniform light chestnut-colour, was caught in a rat-trap near the park-keeper's lodge at Lilford.

JULY.

1st. I received two eggs of Nightjar (the first Northamptonshire specimens that I have seen), from the same locality as the young Woodpeckers above mentioned, where I am assured that two pairs of the former species have bred this summer.

4th. First report of Green Sandpiper for the season.

11th. I received two Hawfinches, caught in the Rectory-garden at Tichmarsh, and hear reports on all sides of the unusual abundance of this species, and the ravages committed by the birds amongst the green peas.

13th. Our butler tells me that in a stroll by the river-side near Achurch, this afternoon, he came across a brood of young Common Sandpipers, just able to fly. This is the first positive proof of the breeding of this species in our neighbourhood that has come to my knowledge.

14th. Very strong S.W. wind. An adult female Dabchick was picked up in a sunken lane close to the house at Lilford, and brought to me immediately, in a dying condition, having evidently flown against some wire rabbit-netting that borders our lawn on one side of the lane.

15th. A male Shoveller on my small aviary-pond. I sent the falconer to search for a Hobby's nest, in the wood often alluded to in my previous communications to 'The Zoologist'; but although a pair of these little falcons were there as usual, and flew about shrieking over the tree-tops, he could not, in spite of several stiff climbs up to various old nests of Carrion Crow and Magpie, discover the nursery of the Hobbies. On 22nd inst. he

went again to the same wood, with another excellent climber, and examined many other nests, without result; on this second visit the explorers did not even see a Hobby, from which fact I infer that the eggs must have been taken between the two expeditions, and that the old birds had left the locality in disgust.

26th. I received from Mr. Clarke Thornhill, of Rushton Hall, Kettering, a fine young female Peregrine, with a bell on each leg, captured near that place a few days previously. I advertised this falcon, and am glad to say that I was thereby enabled to restore her to her rightful owner, Mr. Thomas Mann, of Hyde Hall, Sawbridgeworth.

AUGUST.

5th. A great many Herons haunting the meadows during the last week.

12th. The decoy-man brought me a Green Sandpiper, alive, snared at the decoy this morning. This bird showed no sign of injury, and pecked viciously at our fingers, but could not, or would not, use its legs, and utterly declined to feed.

13th. Some large Gulls and a small trip of Golden Plovers reported as going up our valley by one of the gamekeepers.

14th. First report of Snipe for the season.

23rd. My cousin, the Rev. Wm. Powys, rector of Achurch, brought, for my inspection, the mummified remains of a Kestrel, which were discovered, with many Jackdaws in similar condition, in an old disused chimney, by workmen employed on repairs at the rectory.

27th. One of our gamekeepers brought to me the head, wings, and legs of a Whimbrel, shot from a passing flock a few days ago, near Sudborough, by a tenant of my neighbour, Lord Lyveden. The shooter had eaten the body of the bird, no doubt with satisfaction to himself, but giving me cause for regret, as—although the Whimbrel is by no means uncommon in this neighbourhood on double passage—I do not possess a “county” specimen.

SEPTEMBER.

3rd. I saw a flight of some six or seven Whimbrels going up the valley near Wadenhoe.

4th. Some Turtle Doves still lingering with us.

8th. I saw a Kestrel chased, and fairly bullied, by a Wood Pigeon.

10th. A flock of some twenty or more Herring Gulls, identified by their cries, passed southerly at an immense height.

12th. A very marked diminution in number of the *Hirundines* about the river; both House Martins and Swallows have been unusually abundant this summer, but very few of the former are now to be seen, and the latter are becoming scarcer every day. On the 17th and 18th insts., however, we were inundated by vast numbers of Martins, and a considerable fresh flight of Swallows coming from the north; these birds "rode out" the southerly gale of the 20th with us, and remained without any perceptible diminution or increase in their numbers till the 25th inst., under which date I find in my journal:—"The river, from the house downwards, is absolutely swarming with *Hirundines*." These birds had almost entirely disappeared on Sept. 28th.

22nd. Mr. Slater informed me that a young Ruff was shot at Ditchford, and brought to him on this day; he added, too, this note:—"The remains of food in the gizzard and the bottom of the œsophagus (which has no dilatation at its bottom end capable of being called a crop) were as follows:—Three or four larvæ of some aquatic *Ephemera*, a grasshopper's hind leg, a great quantity of remains of freshwater bivalves, two daddy-longlegs, a fat white grub (coleopterous, I think), a black fly, much gravel and a good deal of small animal matter, joints of legs of insects, &c., amongst which a proportion of *Algæ*—swallowed, no doubt, accidentally." Three Teal, the first of the season taken on the decoy, brought in with seventeen Mallard; but the decoy-man tells me that five of the former species made their first appearance about a week ago. I have previously noted, in 'The Zoologist,' that the first appearance of Teal in our locality is always accompanied, or very shortly followed, by that of a Peregrine, and this experience was, in this instance, confirmed by the appearance of a falcon in the park yesterday.

24th. I heard and saw the first Redwing of the season.

29th. An adult female Pintail taken on the decoy, pinioned, and placed in the aviary, where she became perfectly tame in a few days.

OCTOBER.

1st. Sudden appearance, on the river near the house, of a vast number of Sand Martins, a species never very abundant in the

immediate locality, and notably scarce throughout this summer; only two were to be seen on the 2nd inst. I may mention that we had a whole gale from W. by S. on the 1st, and that the 2nd was a perfectly calm, sunny day, with a slight touch of frost in the early morning.

8th. I heard and saw the first Brambling, and first Grey Crow of the season.

15th. I received a Little Owl, alive, that was taken from a rabbit-burrow at Deene a few days ago, its retreat discovered by a pointer-dog. This bird is, in all probability, one of the many turned down hereabouts during the last few years.

17th. Wild, stormy day, with strong N.W. wind. Clouds of small birds crossed the lawn *to windward* throughout the day; the majority—so far as I could make out from the window—was composed of Sky Larks; but there were also great numbers of Chaffinches, Linnets, Greenfinches, possibly Redpolls and Starlings. Ten Geese also passed over the house, going heads to windward.

18th. Wind veering to the N.; a great many birds passing to S.W. First certain report of Fieldfare for this season.

20th. First Woodcock of the season, shot close to the house by the falconer. One of the gamekeepers, who was employed in packing game to send away at the game-larder, suddenly heard a great uproar of Chaffinches, Tits, and Robins, and thinking that it was, in all probability, caused by the appearance of a Little Owl, went out to investigate, and found that the excitement was due to the Woodcock, which had apparently just settled under a chestnut tree hard by the larder; he flushed and marked down the stranger, and summoned the falconer with his gun. This is not by any means the first instance that has come to my knowledge, in this county, of the mobbing of a Woodcock by small birds—a proof, no doubt, of the lamentable local scarcity of this desirable species.

22nd. Four Pochards and an adult pair of Scaups dropped on to the decoy-pool at morning flight-time, but left at sunset, and did not reappear there.

23rd. First Wigeon of this season, on the decoy.

25th. First Water Rail of the season, at the decoy.

NOVEMBER.

3rd. The decoy-man brought in twelve Mallards, taken this morning, and told me that he had left fifty-five of this species, eight Teal, and four Wigeon on the pool. The meadows are perfectly dry, hard, and very bare, and there is not a Snipe to be found in the neighbourhood.

10th. A solitary Swallow flying around the house.

22nd. Received a letter from a resident of Woodford, near Thrapston, telling that he had caught a strange bird, that he believed it to be a "Sea Eggar," and wished to know if it had escaped from us. In response to a telegram from me the writer brought his bird here in the afternoon: it is an immature Common Gull, in good condition.

26th. An adult Kittiwake, miserably thin and weak, was picked up yesterday in the rectory garden at Tichmarsh, and brought to me this afternoon. This bird recovered, and thrived upon earth-worms for some weeks, but as soon as the supply of this food failed, on account of the severe frost, the gull refused to feed at all, and of course died of starvation. It is certainly remarkable that such an especially maritime bird as the Kittiwake should utterly decline to eat both salt- and fresh-water fishes and raw meat.

28th. A small lot of Snipes has come in; the first "Jack" of this season was shot to-day, with six Common Snipes and three Teal. Five Goldeneyes on the decoy.

DECEMBER.

6th. A Water Rail was caught by the decoy-dog; this is only the second occurrence of this by no means locally rare bird hereabouts that has come to my knowledge this season. A large flock of Siskins on the alders near Pilton bridges.

10th. Three Geese—which, from the account given to me, must, I think, be *Anser albifrons*—seen near Aldwinckle.

12th. The decoy-man reports a solitary "Grey Goose" as haunting the meadows in the neighbourhood of the decoy.

16th. A fairly good male Tufted Duck shot on the river near Tichmarsh.

21st. We have been, and still are, feeding many birds on the garden-terrace during this terrible spell of frost and snow.

I notice that the few Song Thrushes, and many Blackbirds, that come regularly to the banquet scattered for them on the swept gravel, fight furiously with their own species, but do not molest the Sparrows, Chaffinches, Redbreasts, or Hedgesparrows. The Nuthatches and Tits are regaled at some of the windows of our top storey, and very rarely come down to the terrace.

24th. A Dabchick, caught under the platform at Barnwell Station, was brought to me alive; it took two or three mealworms, but declined everything else offered to it, and soon died.

The year 1890 was, in our locality, remarkable from an ornithological point of view, from the late stay of the northward-bound Wood Pigeons, owing probably to the cold northerly winds that prevailed almost throughout the month of May, and the comparative scarcity of two of our usually abundant species, the Redstart and Spotted Flycatcher. On the other hand, Swallows and House Martins were remarkably abundant, and most of our other vernal migrants quite up to their average numbers. The extraordinarily dry weather of the latter end of August, nearly the whole of September and the early days of October deprived us, to a great extent, of many of our usual autumnal visitors,—*e.g.* Spotted Crakes, Snipes, and other more or less frequent waders,—and no doubt hastened the departure of the Corn Crakes, which swarmed in our meadows before hay time, but had virtually disappeared before September. As I have stated in these notes, there was an immense passage of migratory birds in September and October, but I did not hear of a Ring Ouzel, and only saw one Grey Wagtail during the autumn. I am of opinion that the valley of the Nene, from the Wash as far up as Thrapston, is certainly a much-used route of migration; but I believe that the majority of our autumnal migrants leave the valley somewhere above that town, and strike across country for the eastern affluents of the Severn, and my theory regarding this last autumn is that the migrants, with this intention, started earlier than usual, and finding our district dry and unproductive, passed on without lingering; the river was unusually low, and is annually becoming less attractive to animals of all kinds, from pollution by chemical poisons. The very severe frosts and snow of December brought us no uncommon birds, even before all our streams were completely ice-bound, as they have been, and still are at this moment (Jan. 8th, 1891).

The following dates, all of which may be depended upon *quantum valeant*, of course prove nothing beyond the dates upon which my informants first saw the birds named. In my opinion, the *only* value of these records is for comparison with others from different localities:—March 12th, Woodcock; 16th, Merlin; 23rd, Chiffchaff; 28th, Wheatear; 30th, Whinchat, Tree Pipit; 31st, Wryneck, Golden Plover. April 9th, Blackcap; 14th, Ray's Wagtail, Swallow; 15th, Martin; 16th, Cuckoo, Willow Wren; 17th, Sand Martin; 18th, Wigeon; 21st, Redstart, Nightingale; 22nd, Sedge Warbler; 23rd, Common Sandpiper; 26th, White-throat; 29th, Wood Wren, Red-backed Shrike; 30th, Landrail. May 2nd, Turtle Dove; 4th, Lesser Whitethroat; 6th, Spotted Flycatcher; 7th, Reed Warbler; 15th, Swift.

ON THE HERPETOLOGY OF THE GRAND DUCHY OF BADEN.

BY G. NORMAN DOUGLASS.

(Continued from p. 20.)

2. *Lacerta agilis* (Linn.).—The young are the first to appear in spring, namely, about the middle of March, and often pay dearly for their temerity; they are also the last to withdraw towards the end of October. The old males leave their winter quarters towards the beginning of April, and may be observed, often still covered with earth, basking in the warm sunshine. They precede the females by about a week, as in the case of many other reptiles, batrachia, fishes, and migratory birds.

With respect to the distribution of this lizard, it may be noticed that in the Bavarian Palatinate and Northern Elsass it is for the most part less ubiquitous than *L. muralis*; and I hear that in some districts, as near Deidesheim, where both the southern forms are found, *L. agilis* is decidedly scarce. On the eastern side of the Rhine it is by far the most generally-diffused species, avoiding the highest parts only of the Black Forest, while in the lower and wooded portions of the country it is most abundant, and frequently attains large dimensions.

The extreme length usually cited is 21 cm., but, in the immediate vicinity of the capital, specimens of 20 to 22 cm. are not

uncommon, and one in my possession from a small village about five miles distant (Wörth) measures as much as 25.1 cm. This individual, a male, is otherwise interesting as possessing a distinctly-developed gular fold, a feature as a rule not marked in *L. agilis*. According to Bedriaga, the gular fold is characteristic of some Russian forms of this species, a circumstance which appears to countenance his supposition respecting its affinity with *L. viridis*, these Russian varieties being, as he shows, the intermediate links. I see Steindachner ('Schlangen &c. der Galapagosinseln'), speaking of *Amblyrhynchus*, says, "Some large specimens have a *sulcus gularis*, others have absolutely none." The young of *L. agilis* possess a marked gular fold, which, in the same manner as that of some caudate batrachians, loses its distinctness at the approach of maturity.

During the growth of the individual the collar which at first, like that of *L. muralis*, is even-edged, becomes denticulated. It is to be observed, however, that immediately after desquamation, or with males of a bright green colour, the edges of the otherwise pigmented collar are often quite translucent, the green colour exhibiting an even line, as though the collar were not serrated.

It is open to question whether much stress should be laid on cases of individual variability such as these, though they may under circumstances give a clue to generic relationships. As another example may be adduced the variability in the rows of ventral plates of certain species, which has caused some difficulty to systematic naturalists; as also the irregularities occurring in the plates on the head. From a considerable list of such irregularities which I have tabulated,* it appears that (1) they occur more frequently with the male than with the female; (2) some correlation appears to exist between certain plates, the variability of one entailing that of another; (3) some irregularities are more liable to occur than others, and in an analogous manner with different species of lizards.

This tendency in different species to present analogous vari-

* As: occipital rudimentary, often absent; internasal very variable in shape and size; between the latter and the frontonasalia a small plate often inserted; interparietal divided into small plates; two plates joined together without a division, or all plates irregular (perhaps the result of an external injury), &c.

ations is in itself a study, and one which deserves in the highest degree the attention of those who have the required leisure and materials at their disposal. In view of the growing interest now justly attached to "variability" in general, it may not be out of place to refer to a few facts of this nature which have struck me in comparing a very limited number of species, and with respect only to one character (that of colour). Generalisation is not always to be commended in enquiries of this description, but in the present instance it will appear obvious that the universality of the phenomenon becomes more apparent as we extend the field for investigation of this subject, by bringing together larger groups, and by comparing them from more than one point of view. Perhaps in no department more than in Herpetology has this tendency to analogous variability been productive of confusion in nomenclature, by frequently concealing true "specific" characters.

In the instance of *Lacerta agilis* hardly any colour-variety can be pointed out which is not "parallel" to others of *L. viridis* or *L. muralis*. Thus the uniform brilliant green tint, which covers in rare cases even the head, limbs, and dorsal zone of the male,*—the last parts of the body to undergo this periodical change,—may be said to correspond in *L. muralis* to the var. *elegans*, Eimer, or to the var. *viridissima*, Fitz. of *L. viridis*. Another variety of the same lizard, not uncommon in Baden, is marked by a profusion of small black dots, greatly resembling the ordinary *L. viridis punctata*, and suggestive of several types of *L. muralis*.

In considering the curious tendency exhibited by various species to offer analogous varieties of this description, it is immaterial to notice whether these varieties are found only sporadically, or whether they have developed into fixed local races; and further, whether the analogy is permanent or of a merely transitory nature. For it is sometimes more pronounced at certain periods of the year, and in some cases it is only then that its existence strikes the observer.

In support of this, I may call attention to the significant fact that some males of *L. agilis*, far from obliterating in spring all

* Boettger, 'Zoolog. Garten,' 1885, mentions this form of *L. agilis* as very common near Strasburg.

traces of their usual darker markings in a glow of vivid green (as has been supposed), frequently tend to embellish and render conspicuous these designs, notably the brown dorsal stripe.* This is often transformed into an object of great beauty, and a considerable amount of variety is displayed even in the arrangement of this single feature. In many cases a broad band of white runs down the middle of it, in others two thin white bands accompany it on each side, the vertebral zone itself being narrowed and darkened at the same time. Sometimes to the last figure a delicate row of white specks is also added along the centre of the back, which then displays three parallel white lines; or again, the ocelli on the lateral portions each exhibit a white centre. An exactly similar development of patterns takes place with some forms of *L. muralis*, while the analogy with *L. viridis bilineata* (or respectively *trilineata* and *quinque-vittata*) is evident.†

The Sand Lizard offers other varieties interesting from this point of view, such as one which may be called analogous to the var. *nigriventris* of *Lacerta muralis*—a *nigriventris* form of *L. oxycephala* has also been described—another is transversely barred with black markings, like several forms of *L. viridis* and *L. muralis*.

Even the Blind-worm, *Anguis fragilis*, within its stringently limited province of variation, furnishes varieties analogous to the single- or double-lined, as well as to the speckled or cross-striped forms of *L. agilis* above referred to, and if we look still further to the Colubrine Snakes, we encounter numberless instances of one species presenting simultaneously uniformly-coloured, spotted, longitudinally or transversely striated varieties.

* The difference between two males thus diversely decorated is very striking:—later in the season they again resemble each other (having doffed their ornamental costume), and generally assume a bluish-grey tint, owing, I presume, to the “diminished vigour of the constitution.”

† It is difficult to imagine why certain colour-varieties of one species should occur often promiscuously amongst others, and elsewhere as fixed local forms. In the latter case they are sometimes seen to gain the advantages of adaptation to the environment at the same time. The particular two-lined variety of *L. viridis* above alluded to has probably not become established in more parts of Western Europe because it is here mostly confined to the female, and in such cases of sexual dimorphism the preponderance of the male element will generally prevent the young from acquiring, otherwise than temporarily, characters peculiar to the female.

Of still more general nature may be mentioned the frequent appearance, in very many reptiles, of melanotic varieties. Another example is the widespread tendency for morphologically corresponding parts to be marked in a similar manner. Thus attention has been drawn (Leydig, 'Pigmente der Haut-decke,' p. 17) to the dark streak which in many amphibia runs from the nasal opening through the eyes, and is likewise perceivable in some ophidians.* Another case in point is the bright yellow colouring which is seen on the hind legs of many of our *Ranidæ* (its entire absence with *R. ridibunda* is a distinguishing feature of that species); the reproduction of blue or black spots on the outer ventral plates, common to all four of the German *Lacertidæ*, or the V-shaped mark on the shoulders of many anurous batrachians may be also mentioned. The formation of the last-named feature can be traced, in all species which possess it, to the breaking-up of the lateral lines into oval spots, which, when they coalesce at the back of the head (though this is not universally the case), produce this figure.

But, though the development of these markings may have been identical, their existence is less a sign of close affinity than of an inherited tendency to vary in an analogous manner; a fact which is demonstrated still more clearly in the rarer cases of structural variability of this kind.

A reference to any work which enumerates the varieties of the Reptilia and Amphibia will show that the number of such instances could be multiplied *ad infinitum*, and will serve at the same time to illustrate the principle firmly established, that "Nature is prodigal in variety, but niggardly in innovation."

A number of Sand Lizards from extensive tracts of wood in Baden, and from the large Bienwald on the other side of the Rhine, were very uniform in their coloration. This circumstance at first led me to suspect a connection between the locality

* The importance attached by some zoologists to markings, even as characteristic as these often are, as something inoculated into the constitution, and hence unalterable, appears often exaggerated. With birds they are frequently of great value; with reptiles, and still more in the case of batrachians, their stability is easily overrated, and in the cases here named the markings, or special colours, however frequent, are not constant characters in the species which exhibit them.

and their colour, but I should feel averse to drawing any inference from this case, unless it could be supported by others.

A propos of some protectively coloured local races of this species referred to by Dr. Leydig, I have been at some pains to discover the exact locality in his instance of those on the Gebhardsberg, near Lake Constance; but hitherto without success. During a visit to the renowned Miocene deposits at Oehningen, on the Rhine, I was no less unfortunate with the protectively-coloured *L. agilis* he mentions; but this was to be expected, as the sides of the road on which the adaptation to the soil was observed were quite overgrown at the time. I may note that these quarries, celebrated in their day for Schleuchzer's "*homo diluvii testis*," and the wonderful Fauna and Flora described by Heer and others, have been entirely covered with vegetation for the last twelve years, so that this site is now-a-days only found with difficulty. It was last worked by an enterprising Swiss, who established some brick-kilns there, but at present the enthusiastic palæontologist, if not sufficiently compensated for this disappointment by the scenery, is driven to excavate his own quarry in order to obtain a few specimens.

The individual variability of this species is great. In a series of males from the Kaiserstuhl the dorsal stripe was of a light brick-red colour: this, however, proved to be not the true var. *erythronotus* Fitz., prevalent in several chiefly mountainous districts.

Passing on to isolated cases, one or two males captured at different seasons and localities, were interesting, the upper surfaces and sides being of a dark gamboge colour, without any traces of green. With the female the sphere of variability is more restricted; one type of coloration not uncommonly met with is greyish green, covered with innumerable black and white dots, and recalling the speckled male variety already alluded to. Another form is of a uniform cinnamon-colour, others again are very prettily marked with rings of reddish brown on a ground of stone-colour. The lower surfaces sometimes assume a rich yellow tinge, and it is noticeable that the female of *L. viridis* is often coloured in a similar manner.

L. agilis, as well as the three other species, suffers much from the parasitic *Ixodes ricinus*. I have counted as many as

forty-five of these pests on one individual, affecting mostly the throat, limbs, and face.

The proportion of the sexes seems to be more equal than with *L. muralis*. The males still predominate considerably, although the females, especially towards summer, appear to be more numerous, owing to their diminished activity.

(To be continued.)

NOTES AND QUERIES.

Death of the Rev. H. T. Frere.—We have recently heard with regret of the death of an old contributor to this journal, in the person of the Rev. Henry Temple Frere, who passed away in December last, in the sixty-ninth year of his age, at Burston Rectory, near Diss. He was born at the family seat at Roydon Hall, in 1821, and was all his life devoted to the study of Natural History. The owner of a small but choice collection of birds, he prided himself especially on two British-killed Savi's Warblers, one of which he lately presented to Professor Newton for the Cambridge Museum, and an American Meadow Starling, *Sturnella magna*, shot at Thrandeston, in March, 1860. He was one of the oldest correspondents of 'The Zoologist,' and a member of the Norwich Naturalists' Society, whom he entertained at Burston on the occasion of one of their annual excursions. In the Natural History of his own county he always took a great interest, and was a constant correspondent of the late Mr. Stevenson, to whom he communicated several useful notes for his 'Birds of Norfolk.'

MAMMALIA.

Melanism in Mammals and the Irish Rat.—In Dr. Mivart's 'Monograph of the Canidæ,' in his description (p. 7) of the black variety of the Wolf, he remarks:—"It is not, however, completely black, having a reddish tinge on the hinder part of either thigh, while the margins of the mouth, a patch on the breast, the under surface of the lower jaw, and the paws are white." Now in the black variety of the Common Rat (the so-called Irish Rat, *Mus hibernicus* of Thompson), the region of the muzzle is whitish, the feet are silvery white, and in about twenty per cent. of the specimens examined by us the breast had a white patch. The flanks of the Irish Rat have a reddish cast, and in not a few specimens this is more pronounced upon the thighs. We have no wish to give undue significance to the value of these peculiarities, but we venture to suggest the probability that the phenomenon of melanism in the Mammalia is frequently accompanied by

a whitish or nearly white muzzle, white feet, and by a tendency to bear a white patch on the breast. Further investigation may show that the singular concomitants to melanism, in the case of the Wolf and the Rat, are perhaps more general, and not confined to these species. [So-called "black cats" are hardly ever entirely black; there is almost always a white foot or a white spot on the chest.—ED.] We should like to take this opportunity of modifying a statement in our paper in the last number of 'The Zoologist,' which escaped attention when bringing our report down to date. The words "several naturalists" (p. 1) should have been "British naturalists"; for since that statement was penned we became aware that Blasius, in 1857 ('Fauna der Wirbelthiere Deutschlands: Säugethiere,' p. 815), and De L'Isle, in 1865 (Ann. Sci. Nat. iv. Zoologie, p. 189), had expressed the opinion that *Mus hibernicus* was only a variety or race of *M. decumanus*. We did not, however, think it necessary to allude to this in our report, for our object there was to make known facts based upon the examination of specimens, and not to quote mere opinions founded upon a perusal of Thompson's original description.—W. EAGLE CLARKE & GERALD E. H. BARRETT-HAMILTON.

Reported Wild Cat in Shetland.—As there are no real Wild Cats in Shetland, the animal reported (Zool. 1890, p. 454) was doubtless a descendant of the ordinary domestic animal—cats which have run wild, and are to be found in several of the Shetland Islands, haunting the steep cliffs where rabbits abound, and living upon these. The father of the Mr. Laurenson who shot the animal, and is mentioned in the report referred to, in a letter to me describing an eyrie of the White-tailed Eagle, alludes to the abundance of these so-called Wild Cats near the site of the eyrie. The shooter, Mr. J. G. Laurenson, states that he can find no difference, except in size, between the cat referred to and a domestic animal. In colour it is said to resemble a leopard, but with *white* paws. From its teeth, it was evidently an old animal.—HAROLD RAEBURN (The Elms, Eastern Road, Romford).

Leaping powers of the Irish Hare (*Lepus variabilis*).—In 'The Zoologist' for 1888 (p. 259) there is an interesting note, by Dr. R. W. Shufeldt, on the leaping powers of two species of American Hares, *Lepus callotis* and *L. sylvaticus*, to which is appended an editorial request for details of similar experiments with English and Scotch Hares. Bearing this in mind, I made a few experiments here during the recent frost with some Irish Hares. On Dec. 28th I was standing near a fir tree close to the lawn at Kilmanock, when a Hare passed by me across the lawn. I immediately shouted loudly, and sent a little Dachshund, which happened to be with me at the time, in pursuit. The uproar caused by our united efforts had the effect of making the Hare go away at a great pace. I then

measured the length of several successive leaps, and found them to be, in inches:—90, 46, 90, 45, 86, 42, 62, 44, 86, 47, 60, 120. The snow being hard and frozen at the top, the animal did not sink into it, but left two slight, but clearly recognisable, footmarks on its surface after each leap. The measurements were made from one pair of marks on the snow to the next pair, and not, as in the following measurements, from one mark made by a hind foot to the next made by a hind foot. They are rough, but are probably accurate to within an inch or two. The largest leap, 10 ft., will compare very favourably with the measurements given by Dr. Shufeldt of the leaps of the Mexican Hare, which he describes as a "big hare," and therefore likely to make a longer leap than our own. Probably the Hare whose leap I measured would have added another foot to her best efforts if she had had a brace of greyhounds at her heels. I found that the length of the leaps taken by a Hare when merely wandering about was about 30 in. from the mark made by one hind foot to the next one made by that foot, or much less if measured from a fore-foot mark to the next hind-foot mark. This was also about the length of the dog's leap. The alternate nature of the leaps is interesting to notice, long and short leaps seeming to follow each other in regular succession. — G. E. H. BARRETT-HAMILTON (Kilmanock, New Ross, Co. Wexford).

Hybernation of Squirrels.—Some months ago I searched through the back volumes of 'The Zoologist,' and referred to Bell's 'Quadrupeds,' to ascertain the facts in reference to the reported hybernation of Squirrels, but was unable to find any very definite statement. The habits of so common an animal must be familiar to many readers of 'The Zoologist,' and it might be of interest to others, as it certainly would be to myself, if the results of their observations on the subject could be recorded in your Journal. That Squirrels are busy enough with the fir-cones in our woods, in mild winter weather, is of course well known; but have there been any authentic records of actual hybernation in periods of severe cold? On the morning of Nov. 28th, 1890, during sharp frost, I saw a Squirrel climbing with its accustomed agility among the trees in a copse near here. The temperature fell to 20° Fahr. the night before, and for several days previously we had hard weather with biting east wind. Will you kindly tell me whether the hybernation of Squirrels is a point on which there is any doubt, and, if so, would it not be worth while to invite your readers to give their experience regarding it?—ARTHUR LISTER (Highcliff, Lyme Regis).

BIRDS.

Occurrence of the Blackcap in Winter.—The occasional occurrence in England and Ireland during the winter months of the Blackcap, *Sylvia atricapilla*, has been from time to time noted in this and other journals, but such instances have always been regarded as exceptional; have been

observed chiefly in the southernmost counties of England, and generally during mild winters. To find these delicate little summer birds sojourning here during such severe weather as has been experienced during the last six weeks was hardly to be expected, and yet two or three instances of their having been met with in December, 1890, and January, 1891, have been reported. Mr. Samuel Bale forwarded a male Blackcap which was shot on December 12th, while feeding on some honeysuckle in a garden at Barnstaple, North Devon. On the 20th of the same month, according to Mr. O. V. Aplin, a female Blackcap was shot at Bloxham, Oxfordshire, while feeding on the berries of the cotoneaster. There were six inches of snow on the ground at the time, and the cold was intense. The bird, nevertheless, on examination was found to be in good condition. At Lyme Regis, Dorsetshire, on December 23rd, Mr. Arthur Lister observed a hen Blackcap feeding in his garden, and found one—probably the same bird—lying dead there ten days later. On January 5th Mr. W. K. Mann, of Clifton, communicated the fact that a pair of Blackcaps had frequented a garden at Ilfracombe, and on the date mentioned were still there. The question arises, Were these birds voluntary sojourners here for the winter, or were they wanderers from those vast flocks of small birds which, about the same time, were observed for several hours on different days to be speeding westward through Sussex, Dorset, and Devon? A note on this remarkable migration will be found in the present number (p. 63).—J. E. HARTING.

Marsh Harrier in North Devon.—Like all our larger birds of prey, the Marsh Harrier is shot down by everybody who has the chance of doing so, and this bird probably will soon be extinct in this neighbourhood. A male was killed on Braunton marshes on November 3rd, and has been preserved for the collection belonging to the United Services College, Westward Ho.—H. A. EVANS (Westward Ho).

Pomatorhine Skua in Co. Mayo.—I received a good specimen of the Pomatorhine Skua, in its first year's plumage, from my friend Dr. H. Scott, of Enniscrone, which had been shot by his nephew in the last week of November, at Killasea, Co. Mayo, as it was flying over a bog in company with two or three others. Killasea is situated twelve or thirteen miles from the nearest part of the sea coast, so it is probable the birds were making their way across the country to the south-west, their usual line of migration from Killala Bay.—ROBERT WARREN (Moyview, Ballina).

Pomatorhine Skua in Co. Mayo.—I have received an adult specimen of this species from my friend Dr. Burkitt. It was found dead, on Nov. 8th, in a field near the house where he resides, about a mile from Belmullett. It appears to have perished from starvation and exposure, the weather on Nov. 5th, 6th and 7th having been most tempestuous. Dr. Burkitt informs me that the bird was greatly attenuated, weighing but 14 oz., and

that the throat and stomach contained no trace of food. This is interesting in connection with the occurrence noted in the 'Field' of Nov. 1st, of another Pomatorhine Skua obtained on Lough Conn on Oct. 24th, Mr. Warren, of Moyview, having no previous record of the species on our west coast since 1862.—R. J. USSHER (Cappagh, Co. Waterford).

Common Buzzard in Surrey.—A specimen of the Common Buzzard, *Buteo vulgaris*, was caught in a trap by a gamekeeper at Woodhill, a few miles from Bramley, on November 15th last. It was a hen bird, measuring four feet from tip to tip of wings. It has been preserved by Mr. Bradden, taxidermist, of Guildford.—G. H. EASTWOOD (Godalming).

Great Flight of Small Birds to the Westward.—Writing from Brighton, on the 4th of December last, Mr. H. S. Harland reported that on Nov. 27th, during the whole of the day, thousands of small birds—for the most part Starlings, but including Thrushes, Larks, Fieldfares, and Redwings—flew past the sea-front of Brighton in an almost continuous stream, from east to west and from morn till eve. The wind was N. by W., and during the forenoon the birds had to face a snow-storm. From this it was concluded that still more severe weather was in prospect, with the wind veering round to the east; and this proved to be the case. The following day the wind was due east, and the frost became so intense that snow remained on the beach down to high-water mark until Nov. 30th.

Further westward, Mr. Arthur Lister, writing from Lyme Regis on Dec. 23rd, reported as follows:—"On Thursday night and throughout Friday, the 18th and 19th of December, snow fell heavily over a great part of the country, with a westerly wind; for nearly a month previously the wind had blown from the east and north-east, with continuous frost at night, the temperature seldom rising above freezing-point during the day. The lowest I registered at Lyme Regis was 18° F. on Nov. 29th, and 20° to 21° on three other nights; but the cold was more severe inland, for this house stands on high land overlooking the sea, and is sheltered from the north by trees and rising ground. Up to Friday, Dec. 19th, we had little snow in our immediate neighbourhood. On Dec. 20th the wind returned to the N.E., with freezing rain, which covered all herbage with a thin coating of ice. This was very noticeable on the leaves of *Iris fetidissima*, a plant which is very abundant on the Lyme undercliff, where the ground was strewn with thin plates blown off by the wind, and bearing the impression of the veins of the leaves. Towards evening heavy snow set in, and in a few hours lay four inches to a foot deep over all the country side. Lyme Regis, lying in the centre of West Bay, between Portland and the Start, has been a favourable point for witnessing the partial migration of birds occasioned by conditions of weather such as I have described. During the whole of Dec. 20th vast flocks of Larks and Starlings, with Fieldfares,

Redwings, Lapwings, and Linnets, with other small birds, passed over us, flying west, in an almost continuous stream; Larks were most abundant, and must have numbered many hundreds of thousands. Some of them appeared much fatigued, and they spread in multitudes over kitchen gardens and turnip fields, but the main body kept on their course to the westward. How long this lasted into the night we could not tell, but some time after dark the twitter of Larks could be heard. From 8 a.m. to about noon on the morning of Dec. 21st, the stream of Larks and other birds continued to pass in similar clouds as on the previous day, but it slackened as the day wore on, and towards evening it very nearly ceased. Although Larks formed the bulk of the migrants, Linnets were very numerous; some of these were so tame that they remained searching for seeds in the heads of knapweed and charlock which stood above the snow, while we passed within a few yards of them. On the cleared patches, about hayricks, Chaffinches, Larks, Tits, Starlings, Linnets, Yellowhammers, Greenfinches, and Rooks were in great abundance, with a few Cirl Buntings and Wagtails. Some years ago, when hard weather set in over the eastern counties, we observed migration towards the west along the same lines as in the present instance. Larks and Starlings formed the majority of the migrants, but, though their numbers were very great, they did not approach the vast flocks seen on Dec. 20th and 21st. On Dec. 23rd the wind changed to the S.E., with thaw and rain, and, on the melting snow, dead Larks, Redwings, and Linnets were frequently found. Those examined were miserably thin, with nothing in their gizzards but grit."

In a later report, dated Jan. 8th, 1891, Mr. Lister writes:—"Since the date of my last communication (Dec. 23rd) we have experienced in this district (Lyme Regis) a continuance of the rigorous weather which has prevailed throughout the country, and which has killed off Thrushes and Blackbirds in numbers altogether unprecedented in my experience; on the public roads, as well as along the hedgerows, dead birds are met with in dozens. Redwings were the most numerous victims when the frost first set in; they came to us in great numbers about the middle of December, together with a vast influx of Song Thrushes, so that in many fields the two species might be counted almost in hundreds; but the persistent cold and snow have driven away most of the survivors, which have probably joined the flocks of other birds flying westwards; their numbers, indeed, have so diminished that on the 4th of January not a Redwing was to be seen or heard in a ramble of several miles. The migration of Larks, referred to in my former letter, has continued ever since, though with considerable fluctuation; with somewhat milder weather between Jan. 2nd and 4th it had almost ceased, but on the 5th it was again renewed. The day had been almost cloudless, with steady N.E. wind: towards evening the cold increased, and for several hours flights of Larks, going westward, passed

over in scattered groups, without intermission, till after dark. During the night the temperature steadily fell, and at 10 o'clock on the morning of the 6th it stood at 22° against the house. On going into my garden at that hour, I found on the path, by the side of a thick holly tree close to the house, a frozen hen Blackcap, *Sylvia atricapilla*, doubtless the same which we had observed a fortnight before (on Dec. 22nd), and which had at last succumbed to the bitter cold. It was not emaciated, like most of the Red-wings and Thrushes we examined, but the stomach contained nothing but a little mucous matter, with no special character which the microscope could determine."

From a point still further westward, the Rev. E. C. Spicer, of Throwleigh Rectory, Devon, writes:—"An extraordinary flight of birds was observed in many parts of Devon on the morning of Dec. 21st, after the first heavy fall of snow took place at the beginning of the present severe weather. At 8 o'clock on Sunday morning (Dec. 21st) I was astonished at a continuous stream of Skylarks flying overhead in a westerly direction. The flight continued for more than an hour after that, in the most astonishing numbers. Over five hundred were counted in three minutes, and the cloud of birds seemed endless, in every direction. An old farmer here said that he had seen a similar thing about ten years ago. The birds then were found on the estuaries, and by the sea-coast of Cornwall, where they died by thousands. Several letters have appeared in the local papers announcing a similar migration on the same morning, so that there must have been millions of birds on the wing. One correspondent mentions other birds—Thrushes, Blackbirds, &c.—as well, but here I saw only Skylarks. I have seen no record of their destination. It would be interesting to know if any of your readers could tell us where the birds went. They were all flying towards Cornwall. I observed also large detached flocks of Plover, flying towards Dartmoor, on the edge of which I live, in a southerly direction. The appearance of these birds, all hastening away in perfect silence, was almost weird in the dead stillness, all the ground and every twig and bush being covered with deep snow, and not a breath of wind stirring. The event has certainly justified their instincts, for until to-day (Jan. 1st) it has been almost impossible for the birds to obtain any food, except from the berries, which this year are exceptionally plentiful. Large flocks of Fieldfares have taken possession of my garden, where there are a great many hollies, and at any noise they rush out of the bushes like a swarm of flies. It is curious to watch them from the windows in the morning, some ten or a dozen sitting in the snow under the bushes, mere dejected heaps of feathers, occasionally pecking at the berries which their busy comrades have knocked off. The Thrushes are in the wildest excitement. They sit above the hollies, quivering and chattering, and occasionally darting upon a luckless Fieldfare, whose unwonted presence they resent most strongly. I do

not know how these birds discover the berries; it cannot be by their colour, for there are two large hollies within ten yards of each other; one of them was for days full of birds constantly flying past the other, which was almost a mass of brilliant red berries. One tree was almost stripped bare, and the birds all went to an adjoining field for three days. Then one morning I found them in the remaining bush, which they speedily stripped as bare as the rest."

The Water Rail in Middlesex.—I have for the last two months intended to inform you of the occurrence of the Water Rail, *Rallus aquaticus*, in this neighbourhood, where of late years it has been but little seen. On Oct. 31st a friend brought me a female bird of this species, which he had picked up by the road-side near Osterley Park. It was in excellent plumage, though miserably thin, and had apparently died of starvation.—ANTHONY BELT (Ealing).

[But Water Rails are always thin, or seem so; the sternum being very narrow and the ribs much compressed, a peculiarity of structure correlated no doubt with the bird's habits. So also with the Land Rail, Spotted Crane, and in fact all the *Rallidæ*.—ED.]

Scaup in Leicestershire.—A female Scaup, *Fuligula marila*, was shot at Thornton Reservoir on Dec. 4th, and is now in my possession. I am indebted for this note and the bird to Mr. Whitaker, of Wistow.—T. MACAULAY (Kibworth, Leicester).

[Although less addicted to fresh water than the Pochard, *Fuligula ferina*, the Scaup occasionally comes a long way inland during the winter months, and especially after rough weather.—ED.]

Addition to the Avifauna of the Færoe Islands.—The veteran ornithologist, Herr H. C. Müller, of Thorshavn, informs me that he obtained the Jack Snipe *Gallinago gallinula*, in Færoe, last year (1890), for the first time.—H. W. FEILDEN (Wells, Norfolk).

Long-tailed Duck on the Coast of Somerset.—A Long-tailed Duck, *Harelda glacialis*, was shot in the bay at Weston-super-Mare on Dec. 16th, and brought to me. It was in immature plumage, but there was no doubt about the species. I can find no mention of its previous occurrence in Somersetshire.—F. A. KNIGHT (Weston-super-Mare).

Wildfowl in Essex.—The almost arctic weather which prevailed during the early part of January caused us, in this district, to be visited by many species of birds we rarely see in milder winters. On visiting our local birdstuffer, Mr. Pettitt, on Jan. 10th, I found him very fully employed. He had received three Common Bitterns (*Botaurus stellaris*), two Bewick's Swans, one Whooper, one Mute Swan (immature, and possibly an escaped bird), two Bean Geese (*Anser segetum*), one Pink-footed Goose (*A. brachy-*

rhynchus); some Eiders (*Somateria mollissima*), immature; several Smews (*Mergus albellus*), females; and numerous other more common species of ducks and geese, a few Shore Larks (*Otocorys alpestris*) and Snow Buntings (*Plectrophenax nivalis*). I saw all these birds in the flesh, and satisfied myself that they were all local captures.—HENRY LAVER (Colchester).

King Duck at Hunstanton.—On Nov. 13th I received from Dr. Whitty a second specimen of the King Duck, which had been killed off Hunstanton, St. Edmonds, a day or two previously. In this bird the rufous edgings to the feathers indicated maturity, and upon dissection it proved to be an old female; its stomach contained remains of a species of Starfish (I believe *Ophiura albida*, Forbes) found abundantly on the mussel-scaups over which it was feeding. The measurements were so nearly the same as those of the young male that it is not worth repeating them. Like the previous specimen, it was in company with Scoters when killed, and Dr. Whitty tells me that it is not unusual for Eiders to associate with these birds: probably the mussel-scaups, which teem with marine forms equally acceptable to both species, formed the bond of union. Last year, when shooting off Hunstanton, Dr. Whitty killed a Scoter, and his boatman a female common Eider from the same flock.—T. SOUTHWELL (Norwich).

The Ring Ouzel in Ireland in Winter.—A male Ring Ouzel, in winter plumage, was brought to me alive, on Jan 21st, by Master Richard Crofton. It was captured on Jan. 19th, at his grandfather's residence, Edmundstown Park, Rathfaruham, Co, Dublin. I thought at first that it was a young bird of last year, but on showing it to my friend Mr. A. G. More he pronounced it to be an adult male in winter plumage. Is not the occurrence of this bird in winter very unusual?—CHARLES W. BENSON (Rathmines School, Dublin).

[Not so uncommon as was at one time supposed. See 'The Zoologist,' 1879, p. 203, and Trans. Norfolk Nat. Soc. 1889, vol. iv. pp. 627-8.—ED.]

Melanism of the Water Rail.—The Rev. J. E. Kelsall, in his annotated 'Birds of Hampshire,' p. 23, mentions a hairy variety of the Water Rail, taken at Blackwater: it really was a Moorhen. A list of hairy Moorhens is given in the Proceedings of the Norwich Naturalists' Society. But a lady at Christchurch has, what is quite as curious, a black Water Rail, and I am indebted to Mr. Edward Hart for obtaining the loan of it; he informs me that it was seen to strike against a bridge, in October, 1869, and then was picked up dead or disabled by a namesake of mine, who flushed it. It may be described as a real melanism, being black all over, and its own natural colours indistinguishable.—J. H. GURNEY (Kewick, Norwich).

Eared Grebe, Smew, and Bittern in North Devon.—On Thursday, Jan. 15th, a friend of mine, whilst skating near South Molton,—a town

about nine miles S.E. of Barnstaple,—caught an Eared Grebe, *Podiceps nigricollis*. It was shuffling along on the ice, and seemed unable to rise or take wing. I believe this is the first Eared Grebe recorded as having been killed in Devonshire. Several Egyptian Geese have been shot on the Taw, as well as a beautiful specimen of the Smew, *Mergus albellus*, which I saw at Mr. Rowe's, the taxidermist of this town. A Common Bittern was shot near Bideford about Jan. 1st.—J. G. HAMLING (The Close, Barnstaple).

[Our correspondent is mistaken in supposing the above-mentioned instance of the occurrence of the Eared Grebe to be the first recorded for Devonshire. Several previous captures will be found noticed in Messrs. Pidsley and Macpherson's lately published 'Birds of Devonshire,' to be had of Mr. Commin, High Street, Exeter.—ED.]

Bernacle Goose near Scarborough.—Since 1866 (in which year specimens were obtained on the coast of Northumberland) not a single example of this species has come to my knowledge. In October of that year I met with a small flock (to the best of my recollection five in number) a few miles north of Scarborough, flying southward and very low near the foot of the cliff. One I wounded, which fell near to me just over the broken water, so that ample opportunity was afforded for identification; though the bird escaped before the gun could be reloaded.—R. P. HARPER (Scarborough).

[The present severe winter has brought us so many wildfowl from the north that we may expect to hear of Bernacles from some of our correspondents.—ED.]

SCIENTIFIC SOCIETIES.

LINNEAN SOCIETY OF LONDON.

December 18, 1890.—Prof. STEWART, President, in the chair.

Messrs. T. W. Cowan, H. G. Rimmer, and H. Williams were admitted; and the following were elected Fellows of the Society:—Messrs. R. W. Phillips, S. L. Mosley, A. P. Swan, W. M. Webb, A. W. Kappel, and T. W. Fyles.

Prof. T. Johnson exhibited and made remarks on the male and female plants of *Stenogramme interrupta*.

Mr. Clement Reid exhibited specimens of *Helix obvoluta* from new localities in Sussex, and, by the aid of a specially prepared map, traced the present very local distribution of this mollusc in England.

Mr. E. M. Holmes exhibited some examples of galls formed on *Styrax benzoin* by an Aphis, *Etegopteris styracophila*. He also exhibited and described some new British Algae, *Mesoglaea lanosa* and *Myriocladia tomentosa*.

A paper was then read by Prof. R. J. Harvey Gibson on the structure and development of the cystocarps in *Cutanella opuntia*, and critical remarks were offered by Messrs. D. H. Scott, E. M. Holmes, and others.

Mr. G. F. Scott Elliott then read an interesting paper on the effect of exposure on the relative length and breadth of leaves, upon which a discussion followed.

Jan. 15.—Prof. STEWART, President, in the chair.

Messrs. W. A. Clarke and C. M'Raë were admitted; and the following were elected Fellows:—Messrs. L. Field, E. S. Goodrich, H. S. Streatfeild, J. Symons, and C. Wilson.

The President exhibited a bunch of holly berries, which were remarkable for being perfectly black instead of red, but which in no other respect looked abnormal. The peculiarity was attributed to the effect of a fungus.

Mr. J. E. Harting exhibited a male specimen of the Wigeon, *Anas penelope*, which had been shot in Ireland, and forwarded by Mr. Williams, of Dame Street, Dublin, and which had a tassel of feathers about an inch in length, depending from the under side of the neck. The explanation suggested was that it was the result of a former shot wound, when the pellet, as often happens, plugged the wound with feathers, and the skin had grown round and below the obstruction.

A paper was then read by Dr. P. H. Carpenter on certain points in the morphology of the *Cystidea*, which were admirably demonstrated with the aid of diagrams. A discussion followed, in which Mr. H. Bury and Mr. Bather took part.

On behalf of Mr. Thomas Kirk, of Wellington, New Zealand, the Secretary read an interesting report of a botanical visit to the Auckland Islands.

ZOOLOGICAL SOCIETY OF LONDON.

January 6, 1891.—Prof. ALFRED NEWTON, F.R.S., Vice-President, in the chair.

Mr. Sclater exhibited some sketches made by Lieut. W. E. Stairs, R.E., of the horns of a large Antelope, apparently new to science, which had been met with by the Emin Pasha Relief Expedition in the forest district of the Aruwimi River.

Mr. G. A. Boulenger read the description of a new Lizard of the genus *Ctenoblepharis*, obtained in the Province of Tarapacá, Chili, by Mr. A. A. Lane, which he proposed to describe as *Ctenoblepharis jamesi*. A second paper by Mr. Boulenger contained an account of some specimens of extinct and fossil Chelonians preserved in the Museum of the Royal College of Surgeons.

Mr. F. E. Beddard gave an account of certain portions of the anatomy of the Kagu, *Rhinochetes jubatus*, as observed in specimens lately living in the Society's Gardens.

Lieut.-Col. H. H. Godwin-Austen read a paper on the land-shells collected in Borneo by Mr. A. Everett, Mr. Whitehead, and others. In this communication (the second of the series) the author gave a list of the species of the families *Zonitidæ* and *Helicidæ*, as known, from Borneo up to the present time. He described the anatomy of several species and defined two new genera (*Diakia* and *Everettia*), pointing out how they differ from previously known genera founded on anatomical characters.

Jan. 20.—W. T. BLANFORD, Esq., F.R.S., F.Z.S., in the chair.

Mr. Sclater exhibited specimens of three species of Purple Waterhens (*Porphyrio poliocephalus*, *P. cæruleus*, and *P. smaragdonotus*), of the Eastern Palearctic Region, and made remarks on their nomenclature and geographical distribution.

Mr. F. E. Beddard described a new African earthworm of the genus *Siphonogaster* from specimens transmitted by Sir A. Moloney, from the Yoruba country to the north of Lagos, and proposed to call it *Siphonogaster millsoni*.

Mr. Oswald H. Latter read some notes on the Freshwater Mussels of the genera *Anodon* and *Unio*, describing the passage of the ova from the ovary to the external gills, the mode of attachment of the glochidia to the parent's gill-plate, and some other peculiarities.

A communication was read from Mr. Roland Trimen, containing an account of a series of Butterflies collected in Tropical South-western Africa by Mr. A. W. Eriksson. The collection contained examples of 125 species, of which eleven appeared to be new to science.

A communication was read from Mr. H. H. Brindley, containing an account of a specimen of the White Bream, *Abramis blicca*, in which the pelvic fins were entirely absent.

Mr. Boulenger read notes on the osteology of the poisonous Lizards, *Heloderma horridum* and *H. suspectum*, pointing out the differences between the two species. He also remarked on the systematic position of the *Helodermatidæ*, which he held to be between the *Anguidæ* and *Varanidæ*, but nearer the former; any close relationship with the *Mosasauridæ* was demurred to. It was incidentally mentioned that the Eocene genus *Thinosaurus*, Marsh, was probably a member of the family *Teiidæ*, and that the Cretaceous *Hydrosaurus lesinensis* was a *Dolichosaurus*. The *Dolichosauria* were considered as the probable common ancestors of the *Lacertilia*, *Pythonomorpha*, and *Ophidia*.

Prof. C. Stewart gave an account of some points in the anatomy of *Heloderma horridum* and *H. suspectum*, differing in some respects from the descriptions of these Lizards given previously by Drs. Fischer and Shufeldt. The most interesting and important point was concerning the poison-apparatus. He believed that he had shown that in both species the ducts of the gland did not enter the lower jaw, but passed directly to openings

situated under a fold of mucous membrane between the lip and the jaw. He thought that the structures previously described as ducts were only the branches of the inferior dental nerve- and blood-vessels.—P. L. SCLATER, *Secretary*.

ENTOMOLOGICAL SOCIETY OF LONDON.

January 21, 1891, the 58th Annual Meeting.—The Rt. Hon. Lord WALSHINGHAM, M.A., F.R.S., President, in the chair.

An abstract of the Treasurer's accounts was read by Mr. Herbert Druce, one of the Auditors, and the Report of the Council was read by Mr. H. Goss. It appeared therefrom that the Society had lost during the year five Fellows by death and had elected twenty-seven new Fellows; that the volume of Transactions for the year extended to nearly 700 pages, and comprised twenty memoirs, contributed by seventeen authors and illustrated by twenty-one plates. It was then announced that the following gentlemen had been elected as Officers and Council for 1891:—President, Mr. Frederick DuCane Godman, M.A., F.R.S.; Treasurer, Mr. Robert M'Lachlan, F.R.S.; Secretaries, Mr. Herbert Goss, F.L.S., and the Rev. Canon Fowler, M.A., F.L.S.; Librarian, Mr. Ferdinand Grut, F.L.S.; and as others, Members of the Council, Prof. R. Meldola, F.R.S., Mr. Edward Saunders, F.L.S., Dr. David Sharp, F.R.S., Mr. Richard South, Mr. H. T. Stainton, F.R.S., Colonel Charles Swinhoe, F.L.S., Mr. George H. Verrall, and the Right Honble. Lord Walsingham, M.A., F.R.S. It was also announced that the new President had appointed Lord Walsingham, Prof. Meldola, and Dr. Sharp, Vice-Presidents for the session, 1891—1892. Lord Walsingham, the retiring President, then delivered an Address. After alluding to some of the more important Entomological publications of the past year, and making special mention of those of Edwards and Scudder in America, of Romanoff in Russia, of the Oberthürs in France, and of Godman and Salvin in England, the President referred to Mr. Moore's courageous undertaking in commencing his '*Lepidoptera Indica*,' on the lines adopted in his '*Lepidoptera of Ceylon*.' Attention was then called to the unusual development during the past year of the study of those problems which have been the object of the researches of Darwin, Wallace, Weismann, Meldola, Poulton, and others, and to the special and increasing literature of the subject. In this connection allusion was made to Mr. Tutt's '*Entomologist's Record and Journal of Variation*,' to Mr. Poulton's valuable book '*On the meaning and use of the Colours of Animals*,' and to the interesting and important papers and experiments of Mr. F. Merrifield on the subject of the variation in *Lepidoptera* caused by differences of temperature. After alluding to the International Zoological Congress held at Paris during the past year, and to the rules of nomen-

clature which had been once more reviewed and revised, the President concluded by referring to the losses by death during the year of several Fellows of the Society and other Entomologists, special mention being made of Mr. E. T. Atkinson, Mr. J. S. Baly, Mons. l'Abbé de Marseul, Mr. Owen Wilson, Mons. Lucien Buquet, Mons. Eugene Desmarest, Prof. Heinrich Frey, Dr. R. C. R. Jordan, Mr. W. S. Dallas, Dr. L. W. Schaufuss, Dr. Hermann Dewitz, Mons. Louis Reiche, and Herr Peter Maassen. A vote of thanks to the President for his services during the year and for his address was proposed by Dr. D. Sharp, F.R.S., seconded by Mr. M'Lachlan, F.R.S., and carried. Mr. M'Lachlan then proposed a vote of thanks to the other Officers of the Society, which was seconded by Mr. S. Stevens, and carried. Lord Walsingham, Mr. Goss, and Mr. Grut replied. —H. Goss, *Hon. Secretary*.

NOTICES OF NEW BOOKS.

The River-side Naturalist: Notes on the various forms of Life met with either in, on, or by the Water, or in its immediate vicinity. By EDWARD HAMILTON, M.D., F.L.S., F.Z.S. Illustrated with numerous Woodcuts. London: Sampson Low, Marston & Co. 1890. 8vo, pp. 400.

THE author of this book, an accomplished angler, has been so struck at the want of knowledge concerning common objects of the country, displayed by friends who have accompanied him in his "river-side rambles," that he has attempted to note down, for their benefit and for that of others, some of the many interesting observations which he has made by the river in the course of his own experience. The result is a very pleasant volume.

As may be gathered from the title, he deals with a great variety of subjects. Mammals, birds, reptiles, fishes, mollusca, crustacea, insects, and plants, are all dealt with, and the fishes naturally receive a large share of attention. There is perhaps not much in the text that will be new to naturalists of any experience; but then the book is intended obviously for the inexperienced, and is designed to show how wonderfully interesting a river-side ramble may become if the "contemplative man" who wields the fly-rod will but use his eyes, his ears, and his powers of observation and reflection.

We must confess that we should have liked the book better had Dr. Hamilton quoted less from other authors, and given us more of his own experience, especially as many of the volumes quoted are among the most familiar of text-books.

We are sorry to see old fables revived without any accompanying contradiction; as, for example, the story told by the credulous Jesse, of the brooding wild-duck which flew down from her nesting tree *with one wing*, while she held her young one under the other. How the bird contrived to do this without losing her balance, and perhaps her life, in falling from such a height, the reader is left to discover.

Dr. Hamilton's remarks are much more entertaining and novel when he gives us the result of his own observations. Thus:—

"Snakes will take small fish. We were sketching by the side of a lake when suddenly a commotion in the water near us attracted our attention. We saw a snake had seized a small bleak, and was swimming towards the shore with it in its mouth. The rest of the shoal were following and surrounding the snake, as if inclined to attack it; but it got safely to some hole in the bank, and disappeared from view" (p. 171).

As might be expected, from his proclivities as an angler, the author is at his best when discoursing of fish and their peculiarities (pp. 178—292). He discusses the questions "do fishes hear"? "do they sleep"? and "do they feel pain"? and describes clearly and briefly the structure and function of the swimming or air-bladder (p. 184), which, as he says, has a great deal to do with the movements of many species:—

"Whatever may be the shape, it serves a specific purpose, *viz.*, to alter the specific gravity of the fish, so that it may rise or sink in the water. By simply compressing this bladder by approximating the walls of the abdomen, or by means of a muscular apparatus provided for the purpose upon a principle with which everyone is familiar, the fish sinks in proportion to the degree of pressure to which the contained air is subjected, and as the compressed air is again permitted to expand, the creature becoming more buoyant, rises towards the surface. In many fish (*e.g.* the Perch) the air-bladder is closed, and there is no escape for the confined air; and in those fish with this form of bladder which live at great depths, the very bringing them up to the surface (the air or gas being no longer compressed by the weight of the water) bursts the swimming bladder. This is often seen in fishing for Cod."

Referring to the visual organs of fish Dr. Hamilton says :—

“It would be interesting to determine at what angle fish perceive objects behind them, or directly in front of them. It would appear in many that the vision is chiefly directed upwards and laterally, but how far their vision (particularly in fish which get their food chiefly on the surface of the water) extends backwards and forwards is not yet determined. An object placed laterally, or above, will almost immediately attract or scare. We have many times been able to get close to a Trout by approaching it directly from behind, when the slightest deviation laterally would send him away. In approaching fish, not sufficient consideration is given to the powers of refraction and the medium through which a fish sees ; and it should be remembered that fish do not see objects as we see them ” (p. 183).

The distinctions between the young or parr stage of the Salmon (*Salmo salar*), the Sea Trout (*S. trutta*), and the River Trout (*S. fario*), are thus summarised by our author :—

“In the *Salmon parr* the body is long and graceful ; the head and snout longer ; the parr marks (transverse dark bands) very distinct and separated by broad intervals ; the pectoral fins narrow, and with the ventral and anal of a dusky hue ; the tail much forked.

“In the *migratory Trout* the body is thick and short ; the head and snout more rounded ; the dorsal fin often spotted ; the pectoral broad, and with the ventral and anal orange coloured ; the adipose fin tinged at the end a light orange ; the tail but little forked.

“In the *river or brook Trout* the body is long and not so shapely ; the head short ; the snout very obtuse ; the eye large ; the dorsal fin spotted ; the adipose fin with a scarlet red tip ; the tail square, and but little forked.

“To the experienced, and even to some experts, the absolute certainty of the distinction is often a matter of difficulty.”

An interesting chapter is that on Eels (pp. 286—291), wherein the author discusses the species, migrations, and propagation of these fish, and the distinguishing characters of the sexes. Most writers on Eels have stated that they breed only in the brackish water of the estuaries of our rivers, but many good observers declare that some Eels do breed in fresh water, in ponds and lakes which have no connection with rivers that run to the sea. Dr. Hamilton does not inform us to which of these two views he is inclined, nor does he explain, if Eels do not breed in isolated lakes and ponds, how it is that the supply of these fish is maintained there. Many places might be named where from time immemorial fine large Eels have been taken when required for

the table, and yet there has been apparently no diminution in the supply, nor has any fresh stock been introduced.

In this chapter, though many other authorities are quoted, we are surprised to find no mention of one of the latest and best contributions to the literature of the subject, namely, Dr. Brown Goode's paper on the life-history of the Eel, published in the 'Bulletin of the United States Fish Commission,' vol. i., 1882, pp. 71—124, and containing a useful list of the most important papers concerning the Eel and its reproduction.

In the chapter on Fresh-water Mollusca, Dr. Hamilton describes some of the species most likely to come under the notice of an angler. He might have added something about the food which they furnish to many aquatic animals, besides fish. The Otter, for example, is very fond of Mussels. The Dipper devours quantities of the Fresh-water Limpet (*Ancylus fluviatilis*), the Little Grebe may often be seen picking off the thin-shelled *Limnea* and *Physa* from the floating leaves of the yellow water-lily (*Nuphar lutea*), while the fat Trout which our author is so fond of beguiling with his dainty flies may very likely owe much of its good condition to the abundant supply of small mollusca which it is able to find, and greedily swallows.

The worst feature in Dr. Hamilton's book appears in the illustrations, the majority of which are simply execrable; being badly drawn, and badly engraved. No "river-side naturalist" ever saw a Coot or a Little Grebe swim *on the surface* of the water, as depicted on pages 34 and 44, nor a Mallard sitting up like a Guillemot, as on page 47. Weasels and Stoats never show the entire length of their limbs, as displayed on page 10, nor have we ever seen an Otter with such a white face and throat as that depicted on page 6. Many of the figures (as on pp. 55, 84, 87, 101, 123, 149, 150, 153, 209, and 295) are quite unlike the species they are intended to represent. Dr. Hamilton, we feel sure, has too good an eye for the beauties of Nature not to be aware of this, but he has been unfortunate in his artists. Several of the cuts (as on pp. 67, 77, 81, 85, 103, 123, 125, 131, and 147) are too large for the page, being actually wider than the type,—a great eye-sore,—and should have been either cut, or vignettted, or, better still, omitted altogether.

Should a second edition be contemplated, it is to be hoped that these suggestions may receive consideration; and it would

certainly be desirable to correct the typographical errors, of which there is an unusually abundant crop. Here are a score of the most noticeable:—

Page 40, for Metzzer	read Metzner
44, „ Doucher	„ Doucker
44, „ Podiceps	„ Podicipes
46, „ Boschas	„ Boscas
49, „ Tuberville	„ Turberville
59, „ Meyer	„ Meves
64, 74, 75, for Willoughby,	read Willughby
76, for aviarian	read avian
76, „ rustica	„ urbica
86, „ Yarrel	„ Yarrell
88, „ Shude	„ Lhude (<i>i. e.</i> , loud)
„ „ showeth	„ loweth
„ „ butter	„ bullock
„ „ Music	„ murie (<i>i. e.</i> , merry), and supply
two lines omitted from the old English ballad here quoted.	
Page 90, line 9, for sacred,	read second
119, for Estrenne,	read Estienne
125, „ Yaffel	„ Yaffle
126, „ Nurdish	„ Hurdis
145, „ Stapelgrove	„ Staplegrove
146, „ sliding kite	„ gliding kite.

The author's observations on the systematic position of the Swifts and Swallows (p. 70) show that he has not read the latest and most important contribution to the subject, namely, Dr. Shufeldt's paper published in the 'Journal of the Linnean Society,' vol. xx. (1889), pp. 299—394, in which a different conclusion is arrived at to that which he himself has endorsed.

The Birds of Norfolk, with remarks on their habits, migration, and local distribution. By HENRY STEVENSON, F.L.S. Continued by THOMAS SOUTHWELL, F.Z.S. In three volumes. Vol. III. 8vo, pp. i—xii, 1—432. London: Gurney & Jackson, Paternoster Row. 1890.

THE long-expected third volume of 'The Birds of Norfolk' has at length appeared, and fittingly brings to a close the labours of the deceased author's lifetime. At the time of his death, in August, 1888, a certain amount of progress had been made with the MS., and 160 pages were printed off. It devolved on his

friend and fellow-citizen, Mr. Thomas Southwell, of Norwich, to complete the volume, and this, as it seems to us, he has accomplished in the most satisfactory manner. We can well believe that it entailed no slight labour to decipher all the author's fragmentary notes in a handwriting never very legible, and to collate, arrange, and supplement these so as to bring all up to date must have involved an expenditure of time and energy which few editors, even if they felt competent enough, would have been willing to undertake. The value of Mr. Stevenson's two former volumes was too well known and appreciated not to make it a matter of general regret that he did not live to complete the third, and if the universal gratitude of ornithologists can compensate Mr. Southwell for all his labour in bringing this important work to a conclusion, we feel sure that it will be accorded by acclamation.

To the majority of readers, probably, the present volume will be of greater interest than either of the two which preceded it, for it appeals to sportsmen quite as much as to naturalists, and deals with all the wealth of wildfowl and sea-fowl for which the county of Norfolk is so justly celebrated.

Geese, Swans, Ducks, Grebes, Divers, Terns, and Gulls are all dealt with in succession, and many interesting details are given respecting the breeding haunts of many of the wildfowl, and the occasional visits of some of the rarer species. In particular we would call attention to the account given (p. 233) of the Great Crested Grebe, a bird eminently characteristic of the Norfolk Broads, and of the famous "gullery" at Scoulton Mere (p. 327). It will probably be news to many readers that there was formerly another "gullery" on the borders of the county at Brandon, on a small mere perhaps half-a-mile from the Brandon and Mildenhall Road, and close to Wangford. In a note on p. 323, Prof. Newton communicates the fact that in 1858 he was informed by the warrener that the Gulls (*Larus ridibundus*) had left off breeding there several years before, in consequence (as the tenant of the warren asserted) of the owner "taking their eggs too close." Some interesting particulars are given (p. 323) of the former nesting of this species at Stanford, on Lord Walsingham's estate, where, some time after they had ceased to breed there regularly, they were one year induced to return by placing some Gulls' eggs (which had been brought from

Scoulton) in some old Coots' nests. An excellent idea is given of the appearance of a "gullery," when disturbed, in the frontispiece to this volume, which was sketched at Scoulton in June, 1872, by the masterly hand of Joseph Wolf.

It is satisfactory to learn that since a close-time for wildfowl has been fixed by Act of Parliament, the number of Ducks remaining every summer to breed has increased considerably. Duck and Mallard, Teal, Garganey, Pochard, Tufted Duck, Gadwall, and Shoveller now breed regularly in parts of the county where they are specially protected. In the summer of 1887, when visiting Lord Walsingham at Merton, near Thetford, the present writer had the gratification of observing broods of all these species (except the Garganey) swimming with their parents about the meres at Stanford and Tomston, in addition to Coots and Moorhens, Little and Great Crested Grebes.

The Sheldrake, or Burrow Duck, frequenting the sandhills on the coast, adds one more to the list of wildfowl breeding regularly in Norfolk, and a very interesting circumstance in connection with the former inland nesting haunts of this duck is made known in the present volume (p. 123). It would seem that in the days of Sir Thomas Browne of Norwich, that is, in the time of Charles II, Sheldrakes used to breed *inland upon the warrens*, and in this author's "Account of Birds found in Norfolk" he particularly mentions these "noble-coloured fowl (*vulpanser*), which herd in coney-burrows about Norrold [*i. e.* Northwold] and other places."

While on the subject of wildfowl it is of interest to note the coloured figure which is given of the duck known as Paget's Pochard (pl. iii., p. 208), and which is now generally regarded by ornithologists as a hybrid between the Common Pochard, *Fuligula ferina*, and the Ferruginous or White-eyed Duck, *Fuligula nyroca*. Nor can we pass unnoticed the description furnished by Mr. Southwell of wildfowl decoys in Norfolk, although (as the reader is informed on p. 172) the account previously published by him on this subject in the "Transactions of the Norfolk and Norwich Naturalist's Society" (vol. ii., p. 538), is "much more complete than space will here permit of."

One of the most interesting topics discussed and illustrated in this volume, is the occurrence in the county, so long ago as Oct. 1792, of the Wall Creeper, *Tichodroma muraria*. It was

shot at Stratton Strawless, near the house of Robert Marsham, who communicated the fact to Gilbert White in a letter dated 30th Oct. 1792, and subsequently sent him a coloured drawing of two quill-feathers (here reproduced pl. v, p. 381), which leaves no doubt as to the correct determination of the species.

Mr. Southwell brings the work to a close with four useful Appendices :—(A). Species to be added since the publication of the two former volumes, namely, *Aquila chrysaëtus*, *Lanius minor*, *Turdus varius*, *Hypolais icterina*, *Sylvia nisoria*, *Motacilla alba*, *Emberiza hortulana*, *Serinus hortulanus*, *Tichodroma muraria*, *Ægialitis asiatica* (Pallas), and *Somateria spectabilis*, of which a second specimen has been lately obtained. (B). Additional notes on rare species ; including Pallas's Sand Grouse and the Great Bustard. (C). Five species whose reported occurrence in Norfolk admits of doubt, namely, the Short-toed Lark, Pine Grosbeak, Eastern Golden Plover, Great White Heron, and Green-backed Gallinule, *Porphyrio smaragdonotus*. (D). Species discarded altogether from the Norfolk List, namely, *Scops asio*, *Loxia bifasciata*, *Sturnella ludoviciana*, *Ardea garzetta*, *Ardea russata*, and *Scolopux sabinii*, which, being regarded as a melanism of the Common Snipe, takes rank only as a variety.

The evidence *pro* and *con* in regard to all these, will be found detailed in the Appendices.

Prefixed to the volume is a memoir of the author by Mr. Southwell, together with a portrait which we doubt not will be very acceptable to those who were acquainted with the genial and gifted naturalist who has passed away.

The Natural History of Selborne. By the REV. GILBERT WHITE, A.M. A new edition. Edited with notes by G. CHRISTOPHER DAVIES. London: Gibbings, 18, Bury St., W.C. 1890.

It is to be regretted that in the eleven years which have elapsed since Mr. Davies first attempted to edit 'The Natural History of Selborne,' he has not taken steps to rectify some at least of the many errors into which he then fell; errors which showed at that time his evident incapacity for the task which he had undertaken. In this lately published "new edition," all the

blunders which we formerly pointed out (Zool. 1879, p. 494) remain uncorrected, besides many others to which we did not advert. An editor who does not know a Red Deer from a Fallow Deer, a Shrew from a Water Shrew, or a Curlew from a Thick-Knee; who supposes that there is only one species of Newt in the British Islands; and that White's "little yellow bird which makes a sibilous shivering noise in the tops of tall woods" is most likely the Grasshopper Warbler (which, as every ornithologist knows, is not yellow, and does not sing in the tops of trees), is hardly the one to be followed as an exponent of White's delightful letters. Rather would we have a reprint without any notes at all (save those of White himself), than have thrust upon us such comments as Mr. Davies has supplied. Some of White's notes, we observe, have been omitted, and we are presented instead with the trivial information that when the editor was a small boy, he used to delight in playing with a large Ammonite belonging to his father (p. 11); that he used (also as a small boy) "to catch great numbers of 'bull-heads' to bait his eel lines with" (p. 41), and that when sitting one evening in Jesmond Dene, Newcastle-upon-Tyne (far enough from Selborne), a Robin hopped close to him and inspected him closely (p. 106), &c. His inaccuracy extends to his "Introduction," where he tells us gravely that the house in which White lived is now (1890) the property of an eminent naturalist, Professor Thomas Bell, being evidently unaware that the eminent naturalist referred to died more than ten years ago!

In the name of all that is accurate we protest against such versions as this of an English classic being foisted on the public at the present day, when our knowledge of the subjects which it embraces is so far in advance of what it was in White's time. Naturalists of mature age and experience will require no aid from a reviewer to form a proper estimate of the worth of this volume; but we should be wanting in the candour expected of a critic if we did not warn the rising generation of readers from placing reliance in an edition which, so far as we have cared to examine it, has seemed to us to be wholly unreliable.

It is but fair to the publisher to state that the book is well printed, and, on the whole, nicely illustrated. This makes it all the more regrettable that the editor's share in its production has not been more competently executed.

